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Taro Ishikawa

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CROWELL & MORING LLP
INTELLECTUAL PROPERTY GROUP
P.O. BOX 14300
WASHINGTON, DC 20044-4300

EXAMINER

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

Response to Amendment

Amendments filed on 11/24/2008 changes the scopes of the original claims. New grounds of rejections are applied to the amended claims using previously cited references and the action is made FINAL.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 1-3 and 6-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Klinker (US 2007/0140128).

Klinker discloses a system and method to provide routing control of information over networks including the following features.

Regarding claim 1, an automatic detecting method for a protocol nonconformity in a transmitting and receiving control process (see “Flow control system 90 further operates to detect when one or more rules, or flow policies, are violated...” recited in paragraph [0061]; where the violation of policy represents a nonconformity of the protocol, and the flow control process being the transmission/reception control process),

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occurring in the communications between transmitting and receiving terminals (see user terminals shown in Fig. 1C) that make at least one transmitting and receiving control process in accordance with a predetermined communication protocol, said method comprising: acquiring a packet to be transmitted or received in the communications between said transmitting and receiving terminals (see "packet capture 650" in Fig. 6 and "receive captured raw packets" recited in paragraph [0105]); calculating state information regarding a transmitting and receiving state of said packet (see "Traffic flows are monitored within passive calibrator 203 according to the underlying protocol state" recited in paragraph [0083], and see "Packet loss is calculated...by maintaining the state of all of the retransmitted packets that occur" recited in paragraph [0112], the two passages both show the calculation of state information regarding the packet flows) to correspond to a result of transmitting and receiving control in accordance with said communication protocol (see "DSCP information encoded in the ToS (i.e., "type of service") bits...information about IP packet QoS requirements...Per Hop Behavior of a traffic class..." recited in paragraph [0105], that is, information regarding the protocol, or policy, is extracted) from header information (see "extracts information from the...headers" recited in paragraph [0105]) and payload information (see "inspect the payload of each packet...to interpret the performance and operation..." recited in paragraph [0103]) of a required kind of the packet, in an actual communication state (see "Flow control system 90 makes such corrections based on real- or near-real time traffic analysis" recited in paragraph [0061]); storing nonconformity information beforehand featuring nonconformity in said at least one transmitting and receiving

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control process (see policy repository 218 in Fig. 2 and see “policy repository 218...typically include service level agreement (SLA) performance metrics” recited in paragraph [0135]); comparing the state information calculated at said calculation step and the nonconformity information obtained at said storing step (see “If a particular policy is violated (i.e., one or more performance metrics are outside one or more expected ranges or values)...” recited in paragraph [0135]) in order to detect the transmitting and receiving control process where said nonconformity has occurred (see “detect when one or more rules, or flow policies, are violated” recited in paragraph [0061] or the detection of violation condition shown in paragraph [0135], in both cases the nonconformity, or the violation of policy, is detected for the transmitting and receiving control process, or the flow control process); the state information is a Transmission Control Protocol (TCP) connection information (see “Traffic flows are monitored within...according to the underlying protocol state...TCP” recited in paragraph [0083]; that is, the monitored state information is based on the TCP protocol, therefore is considered TCP connection information), and the nonconformity information is at least one of a conditional formula regarding the TCP connection information, a conditional formula regarding the header information of the packet, and a combination thereof (see “determine if a flow policy is violated” recited in paragraph [0064], which shows a conditional formula is used, wherein as shown above and see “TCP flow” recited in paragraph [0008], that TCP flows are used in the system, thus the flow policies are considered TCP connection information policies).

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Regarding claim 2, specifying on the basis of a predetermined algorithm (see “detect when one or more rules...are violated and then takes remedial action...” recited in paragraph [0061], wherein the step of detecting violation and remedying the violation is a predetermined algorithm) the transmitting and receiving control process to be made (see “takes remedial action...correcting detrimental deviation in performance...” recited in paragraph [0061], that is, the remedial action is the control process that needs to be taken, and the actions taken is specified, one example of the specification is shown in the example of paragraph [0061] where the remedial action is specified) based on the header information and payload information of the required kind of the packet transmitted or received at said transmitting and receiving terminal in accordance with said communication protocol (see “rules, or flow polices” recited in paragraph [0061] or see extracts information from the IP and TCP headers. Such extracted information...includes...DSCP information...about IP packet QoS requirement...” recited in paragraph [0105]), and estimating the normal information corresponding to a processing result that said specified transmitting and receiving control process is normally performed (see policy repository 218 in Fig. 2, which holds the normal ranges of parameters acceptable to the policy corresponding to the packet streams), wherein said nonconformity information defines a relation between the state information calculated at said calculation step where there is said nonconformity and said normal information (see “one or more performance metrics are outside one or more expected ranges or value” recited in paragraph [0135], where the expected range represents the normal information and the metrics outside of the range represents the nonconformity).

Regarding claim 3, wherein said nonconformity information defines a relation (see "outside one or more expected ranges or value" recited in paragraph [0135]) between said state information and a fixed value confirmed in advance for the nonconformity (see "expected ranges or value" recited in paragraph [0135]) in said transmitting and receiving control process (the flow control process of the invention).

Regarding claim 6, an automatic detecting apparatus for a protocol nonconformity in a transmitting and receiving control process (see Fig. 2), occurring in the communications between transmitting and receiving terminals (see user terminals in Fig. 1C) that make at least one transmitting and receiving control process (the flow control process) in accordance with a predetermined communication protocol (the policy of the traffic, see explanation in the rejection of claim 1 above), said apparatus comprising: packet acquiring means (see data director 220 in Fig. 2) for acquiring a packet to be transmitted or received in the communication between said transmitting and receiving terminals (see explanation of the step in the rejection of claim 1); calculating means (see passive calibrator 203 in Fig. 2) for calculating the state information regarding a transmitting and receiving state of said packet to correspond to a result of transmitting and receiving control in accordance with said communication protocol based on a header information and payload information of a required kind of said packet acquired by said packet acquiring means, In an actual communication state (see explanation of the step in the rejection of claim 1); nonconformity information storing means (see policy repository 218 in Fig. 2) for storing nonconformity information beforehand featuring nonconformity in said at least one transmitting and receiving

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control process (see explanation of the step in the rejection of claim 1); and comparison means (see controller 205 in Fig. 2) for comparing the state information calculated by said calculation means and the nonconformity information from the nonconformity information storing means in order to detect the transmitting and receiving control process where said nonconformity has occurred (see explanation of the step in the rejection of claim 1); the state information is a Transmission Control Protocol (TCP) connection information (see "Traffic flows are monitored within...according to the underlying protocol state...TCP" recited in paragraph [0083]; that is, the monitored state information is based on the TCP protocol, therefore is considered TCP connection information), and the nonconformity information is at least one of a conditional formula regarding the TCP connection information, a conditional formula regarding the header information of the packet, and a combination thereof (see "determine if a flow policy is violated" recited in paragraph [0064], which shows a conditional formula is used, wherein as shown above and see "TCP flow" recited in paragraph [0008], that TCP flows are used in the system, thus the flow policies are considered TCP connection information policies).

Regarding claim 7, estimation means (see passive calibrator 203 in Fig. 2) for specifying on the basis of a predetermined algorithm (see "detect when one or more rules...are violated and then takes remedial action..." recited in paragraph [0061], wherein the step of detecting violation and remedying the violation is a predetermined algorithm) the transmitting and receiving control process to be made (see "takes remedial action...correcting detrimental deviation in performance..." recited in

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paragraph [0061], that is, the remedial action is the control process that needs to be taken, and the actions taken is specified, one example of the specification is shown in the example of paragraph [0061] where the remedial action is specified) based on the header information and payload information of the required kind of the packet transmitted or received at said transmitting and receiving terminal in accordance with said communication protocol (see “rules, or flow polices” recited in paragraph [0061] or see extracts information from the IP and TCP headers. Such extracted information...includes...DSCP information...about IP packet QoS requirement...” recited in paragraph [0105]), and estimating the normal information corresponding to a processing result that said specified transmitting and receiving control process is normally performed (see policy repository 218 in Fig. 2, which holds the normal ranges of parameters acceptable to the policy corresponding to the packet streams), wherein said nonconformity information defines a relation between the state information calculated at said calculation step where there is said nonconformity and said normal information (see “one or more performance metrics are outside one or more expected ranges or value” recited in paragraph [0135], where the expected range represents the normal information and the metrics outside of the range represents the nonconformity).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Klinker in view of Hernandez-Valencia (US 6,266,327).

Klinker discloses the claimed limitations as shown above.

Klinker does not disclose the following features: regarding claim 4, wherein said calculation step further comprises updating said state information every time acquiring the packet, and said comparison further comprises comparing the latest state information updated at said calculation step and said nonconformity information.

Hernandez-Valencia discloses a non-conformance indicator for the guaranteed frame rate service including the following features.

Regarding claim 4, wherein said calculation step further comprises updating said state information every time acquiring the packet (see “a new cell from the received data stream arrives...” recited in column 6 line 11-29 and Fig. 3-8; where each of the conformance check algorithm flowcharts in Fig. 3-8 shows a series of checks performed

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on each new cell received and updating values, such as Cnt in step 325, 425, etc.), and said comparison step further comprises comparing the latest state information updated at said calculation step and said nonconformity information (see Fig. 3, step 330, checking the calculated Cnt against the MFS).

It would have been obvious to modify the system of Klinker using features, as taught by Hernandez-Valencia, in order to conduct nonconformance test of received packet size.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Klinker in view of Aoki (US 6,757,255).

Klinker discloses the claimed limitations as shown above.

Klinker does not disclose the following features: regarding claim 5, wherein the TCP connection information includes an evaluation value having at least one of a total number of transmitted packets, a total number of retransmitted packets, a total number of Selective ACKnowledgement (SACK) blocks, a minimum packet size, a throughput of a maximum retransmitted interval, and a round trip time up to receiving a response packet to the transmitted packet.

Aoki discloses an apparatus for and method of measuring communication performance including the following features.

Regarding claim 5, wherein the TCP connection information (explained in the rejection made to claim 1) includes an evaluation value having at least one of a total number of transmitted packets (see “total number of packets” recited in claim 6), a total

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number of retransmitted packets (see “the number of packets re-transmitted” recited in claim 6), a total number of Selective ACKnowledgement (SACK) blocks, a minimum packet size (see “minimum value of MTU...” recited in column 11, lines 45), a throughput of a maximum retransmitted interval, and the round trip time (see “round trip time” recited in column 7, line 26) up to receiving a response packet (see “an ACK packet receiving time” recited in column 3, line 32) to the transmitted packet (see SYN packet transmitting time” recited in column 3, line 31-32) .

It would have been obvious for one of the ordinary skill in the art at the time of the invention to modify the system of Klinker by using the features, as taught by Aoki, in order to better detect nonconformance of data transmission.

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Klinker in view of Foster (US 2002/0159389).

Klinker discloses the claimed limitation. Klinker does not disclose the following features: regarding claim 8, packet filter means for selecting only a required packet based on the header information of packet acquired by said packet acquiring means and transferring it to said calculation means.

Foster discloses a method and system for connection preemption in a communications network including the following features.

Regarding claim 8, packet filter means (see “filtering is performed at the ports...” recited in page 5, paragraph 41) for selecting only a required packet based on the header information of packet (see “filter communication based on...header...” recited in

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page 5, paragraph 41) acquired by said packet acquiring means (see “When the port receives communication, it determines whether any of the filter parameters are...” recited in page 5, paragraph 41) and transferring it to said calculation means (disclosed in Hernandez-Valencia in the rejection to claim 6 and 7).

It would have been obvious for one of the ordinary skill in the art at the time of the invention to modify the system of Klinker by using the features, as taught by Foster, in order to preserve processing resources on packets that do not need to be processed.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to JUTAI KAO whose telephone number is (571)272-9719. The examiner can normally be reached on Monday ~Friday 7:30 AM ~5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang Yao can be reached on (571)272-3182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ju-Tai Kao

/Ju-Tai Kao/
Acting Examiner of Art Unit 2416

/Kwang B. Yao/
Supervisory Patent Examiner, Art Unit 2416